

Medical Spanish Graphic Activity: A MeGA Deliberate Practice Approach to Reducing Jargon Use With Spanish-Speaking Acute Care Patients

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Abstract

Introduction: Medical Spanish courses in US medical schools aim to teach patient-centered communication, yet many existing resources focus on technical vocabulary and may inadvertently increase jargon use with patients. Graphic medicine presents an opportunity for interactive learning that centers the patient experience, yet it has never been explored in medical Spanish education. **Method:** We developed a Medical Spanish Graphic Activity (MeGA) for medical student deliberate practice of patient-centered verbal communication focused on three aspects: diagnosis, treatment, and follow-up care. Each 30-minute activity included a comics handout depicting a patient with a common problem. Students used voice-to-text technology to record their explanations in response to prompts. Transcripts were analyzed for jargon use, including total jargon, unexplained jargon, and problem words (non-Spanish words plus unexplained jargon), utilizing a previously published, reliable protocol for Spanish medical jargon classification. Participants voluntarily provided postactivity feedback. **Results:** Twenty-nine fourth-year students with intermediate or greater Spanish skills participated in a series of 10 MeGA activities between January and April 2022. Unexplained jargon use and problem words progressively decreased for all transcripts (diagnosis, treatment, and follow-up; all p s < .001). Total jargon use also decreased, but this was not significant in follow-up transcripts ($p = .38$). All students agreed that MeGA helped them enhance communication skills applicable to patient care and self-identify strengths and limitations. **Discussion:** MeGA is realistic to implement, engages students' active participation in the speaking domain, and reduces unexplained jargon use. Future studies should explore the broader application of this model and engage patient perspectives.

Keywords

Deliberate Practice, Graphic Medicine, Language Concordance, Language Proficiency, Case-Based Learning, Communication Skills, Cultural Competence, Medical Spanish, Diversity, Equity, Inclusion, Language-Appropriate Health Care

Educational Objectives

By the end of this activity, learners will be able to:

1. Verbally explain common diagnoses in Spanish when a patient presents for an acute concern.
2. Verbally explain common treatment plans in Spanish when a patient presents for an acute concern.
3. Verbally explain common instructions for follow-up care in Spanish when a patient presents for an acute concern.
4. Reduce the use of unexplained Spanish medical jargon to improve patient-centered communication with Spanish-speaking patients.

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Introduction

When patients do not share a language with their physician, they are more likely to have worse clinical outcomes.¹ The United States is home to speakers of over 350 languages, and over 25 million individuals report speaking English less than very well.² Spanish is by far the most commonly spoken language in the US besides English, with over 66 million people speaking Spanish at home.³

Medical Spanish is a growing field of education, with most US medical schools providing medical Spanish educational opportunities for future physicians.⁴ However, some educational curricula and resources have been critiqued for overly emphasizing technical terminology/vocabulary⁵ rather than patient-centered communication skills. Patient-centered communication is explicitly listed in two of the five core competencies for medical Spanish education established by expert consensus.⁶

While vocabulary-focused courses may address the knowledge-oriented core competencies, patient-centered communication skills need to be taught and evaluated through interactive pedagogies. To achieve this, some medical Spanish courses include simulated encounters with standardized patients (SPs) as an assessment methodology⁷ for formative and summative purposes.⁶ However, SP encounters are labor intensive and costly to implement, and even programs that develop medical Spanish SP encounters may be able to implement only one or two encounters per student throughout a course.^{8,9} Other medical Spanish curricula provide clinical scenarios that can be used as role-plays to practice communication skills for specific clinical situations, such as COVID-19,¹⁰ musculoskeletal/dermatologic care,¹¹ and endocrine problems.¹² The majority of published curricula represent brief, intensive interventions, and educators struggle with ways for students to longitudinally practice and sustain medical Spanish skills. Therefore, in addition to SP encounters and clinical cases, there is a need for medical schools to longitudinally integrate interactive communication skills practice.

Graphic medicine, defined as the intersection between comics and health care,¹³ presents an opportunity for interactive teaching in health professions education¹⁴ that has not previously been explored in medical Spanish programs. In a study evaluating a graphic medicine curriculum for resident physicians in a US academic hospital, Ronan and Czerwiec reported preliminary findings suggesting that the use of comics may assist residents in improving empathic communication skills with patients.¹⁵ Graphic storytelling has also been incorporated in elective courses in the medical humanities at US medical schools with the aim of enhancing learners' empathy and providing a person-centered lens through which to examine health, illness, and doctoring experiences.¹⁶ Similarly, integrating graphic medicine in medical Spanish education may effectively engage students in active learning through deliberate practice (DP) that authentically reflects their end goal: to more effectively communicate with Spanish-speaking patients.

DP is an educational framework emphasizing a focused and structured approach to improving skills through repetition and feedback.¹⁷ By breaking down complex skills into smaller, more manageable components and practicing each one until mastery is achieved, the student can focus on the areas that require the most attention.¹⁸ Studies have shown DP to be effective in the acquisition of many clinical and procedural skills^{19,20} and superior to traditional models.²¹ DP presents a useful approach to teaching clinical skills through repeated practice sessions followed by immediate formative feedback to refine and address

areas needing improvement. No published studies to date have reported on DP use in medical Spanish education.

We developed an interactive educational intervention, the Medical Spanish Graphic Activity, or *Medicina Gráfica: Actividad en español* (MeGA), series, as a DP strategy for students enrolled in a medical Spanish course to practice patient-centered verbal communication, focusing on three key aspects of the medical encounter: diagnosis, treatment, and follow-up care. To study the activity's effectiveness, we evaluated change in students' medical jargon use as a proxy for patient-centered communication and gathered student feedback.

Methods

We designed the MeGA DP activities to ensure that at least one activity corresponded with content for each of the 10 organ systems typically covered in medical Spanish educational programs.⁶ We then implemented and evaluated the activities with fourth-year medical students enrolled in the medical Spanish course at the University of Illinois College of Medicine.

MeGA Series Development

For each of the 10 organ systems, we selected one common diagnosis and used it as the focus for MeGA. One additional activity was created as an introductory sample to review with students prior to having them independently complete the MeGA activities (Appendix A).

The one sample handout and 10 activity handouts each depicted a Spanish-speaking patient presenting with an acute concern and diagnosed with a specific problem. The emergency department served as the backdrop for all the graphics to maintain a consistent setting and allow learners to focus on language skills. However, the acute concerns depicted were selected for their broad applicability to urgent, emergent, and primary care settings. We created two versions of each handout, one in which three speech bubbles were left blank to allow students to complete the activity and another fully completed version. The fully completed version served as a sample answer key (shared with students following activity completion) so that students could reference it to check their responses. We used the following medical Spanish guiding principles supported by published literature to generate the comics text and sample responses:

- Focus on patient-centered language. If jargon must be used, include a plain language synonym or clear explanation.²²
- When possible, include synonyms including regional variants for health terms that may be best understood

in varied ways by Spanish-speaking patients of different nationalities or heritage.²³

- Intentionally craft the patient comments and responses so as to not propagate stereotypes, overgeneralizations, or inaccurate attributions regarding US Spanish speakers (e.g., the inaccurate perception that Hispanic/Latinx patients are likely to refuse treatment).²⁴

We selected the Adobe InDesign 2019-2022 platform because of its integration of textual and imported graphic elements and flexibility for creating and editing multipage documents. The artist (author Pilar Ortega) created the graphic elements in Procreate, a graphics editor app for digital painting, saved them as image files, and then imported them to Adobe InDesign for integration into the printable PDF handouts. Core design principles, including avatars representative of the heterogeneous US Spanish-speaking patient population (e.g., variations in gender, age, skin color, and body size), a predictable and consistent design to allow students to familiarize themselves with the structure rapidly and then focus on the communication elements that varied across activities, and usability both online and in print, were incorporated into the graphics and were guided by a graphic medicine comics artist (MK Czerwec).

Figure 1 illustrates the key features of the MeGA handouts. The full MeGA collection is in Appendix A, with the answer keys in Spanish and English translations available in Appendices B and C, respectively.

Curricular Context and Participants

MeGA was a DP activity offered to students enrolled in a virtual medical Spanish course at the University of Illinois College of Medicine during the spring of 2022. To qualify for participation, students had to be matriculated at a US medical school, have completed their preclinical training, and meet the Spanish language prerequisite. Students completed a validated language self-assessment tool, the Interagency Language Roundtable scale for health care (ILR-H).²⁵ Those who indicated a level of fair (low-intermediate) or higher were considered eligible, as recommended by expert consensus.⁶

Since this activity was implemented in Spanish, the facilitator had to have Spanish skills at the native/near-native (preferred) or advanced level. Also, prior clinical experience in discussing diagnoses, treatment, and follow-up with patients was important so the facilitator could model patient-centered discussions and address students' questions. Our facilitator was a physician and medical educator with experience teaching medical Spanish who reported an ILR-H level of excellent (native).

This project was determined to be exempt by the University of Illinois Institutional Review Board (Protocol #2019-0945) on September 13, 2019, and students were free to opt out of the research without any adverse impact on their participation or assessment in the course.

Implementation

The first MeGA activity required 60 minutes for preparation and implementation, and each subsequent activity lasted 30 minutes. The onetime preparation segment involved the faculty member introducing the activity, sharing the sample activity, and providing instructions, including technical setup for voice-to-text transcription in Spanish (Appendix D). During the preparation time, students became familiarized with the handout format and listened to the faculty model a sample patient-centered explanation of diagnosis, treatment, and follow-up. From a technical standpoint, students needed an electronic device with internet access and a functioning microphone. Since the participating students were enrolled in a virtual medical Spanish course, they were already equipped with such a device. Technical preparation involved adjusting the language settings on their recording device (e.g., phone, tablet, computer) to recognize Spanish audio for voice-to-text transcription.

For the 30-minute activity time, the first half was for the students' completion of the activity, and the latter half was for debriefing. Three of the graphics in each handout were designed as prompts, with a blank speech bubble for the medical student's explanation to the patient. To implement the activity, students were tasked with filling in the blank speech bubble by recording, via a freely available voice-to-text transcription software (Google Forms), their explanation to the patient of each of three key aspects: (a) diagnosis, (b) treatment recommendations (e.g., medication instructions), and (c) follow-up care recommendations (e.g., return precautions). We selected the Google platform because it was freely available, was widely used, and had a built-in option for voice-to-text transcription requiring minimal setup. The form included a question in which students entered their unique student ID number (known only to themselves and the facilitator) followed by three items as free-response questions with an essay box.

Having students provide their responses verbally was an important aspect of MeGA since it allowed learners to practice oral communication with patients in Spanish—the primary objective of the medical Spanish course. Writing their responses would not have allowed for use of the principal language domain (speaking) that medical students and physicians must use in patient care. Other options allowing for speaking, such as voice

recording (instead of voice-to-text dictation), could also have been effective for practicing an oral language but would have presented greater challenges for providing rapid user feedback. Listening to voice recordings would have been significantly more labor and time intensive compared to reviewing transcriptions, and, unlike text, voice responses would not have been as easily compared across respondents or for the same respondent over time as the course progressed.

After all students had recorded their responses, the facilitator downloaded the response spreadsheet created automatically by Google and shared it with the class to enable debriefing. The facilitator also shared a sample response (Appendix B) with the students and facilitated a discussion (Appendix D). Students could then review their own transcripts and gather additional ideas from peers' responses and from the faculty member's suggested language for providing the patient-centered explanation. Importantly, the sample answer key was presented as one possible correct response, not as the only possible correct response. Acknowledging that there were many potentially correct ways to express the information in a patient-centered fashion, students were encouraged to discuss their word choice and ask questions about how to phrase or express certain concepts in Spanish in a linguistically and culturally appropriate manner. Discussion often involved sharing synonyms and regional words and phrases that might be more familiar to patients from certain geographic areas. For example, dizziness, a recurring concerning symptom listed in the follow-up care answer sheets, is most often described as *mareos* in Spanish, but it can be described in many different ways depending on regional varieties of Spanish and nuances about the specific type of dizziness (e.g., *vértigo*, *vahído*, *yeyo*, *soponcio*). While it was not possible to provide every variety of a term in the handouts, the discussion time was designed to draw out linguistic diversity. This strategy aimed to promote a critical awareness that all clinicians, even those with advanced Spanish skills, should remain attentive to checking patient comprehension throughout the medical encounter and should consider mirroring the patient's own word choices to maximize effective communication.

Evaluation Strategy

Jargon measurement: The measurement of Spanish medical jargon involved a stepwise process (Appendix E) in which each word in student transcripts was cross-referenced with a Spanish plain language dictionary, a dictionary of anglicisms (words borrowed from English and commonly used and understood in US Spanish but not found in standard Spanish dictionaries), and a Spanish medical dictionary.²⁶ Words identified as medical jargon were also examined in the context of the transcript by

two independent reviewers with native-level bilingual skills in Spanish and English to determine whether they should be classified as explained or unexplained jargon. In the analysis, reviewers identified the need for a separate category for non-Spanish words, such as English words or neologisms (made-up words) that students occasionally used.²⁶ The main outcome variables resulting from the jargon measurement process were total jargon words, unexplained jargon, non-Spanish words, and problem words. Problem words were defined as the sum of unexplained jargon and non-Spanish words per transcript since they represented words that Spanish-speaking patients would be likely to have difficulty understanding.

To evaluate whether the MeGA DP activity was having its intended effect of jargon reduction, we conducted a longitudinal data analysis using mixed-effects regression to evaluate change in percentage of total jargon, unexplained jargon, and problem words over time, allowing individual learner variation in performance (slope). While Spanish medical terminology (jargon) knowledge and use might increase as a result of medical Spanish education, we hypothesized that the MeGA DP activity would result in decreased use of unexplained jargon.

Student feedback: Students were invited to voluntarily complete a survey about their experience participating in the MeGA series. Three multiple-choice questions asked student to what extent the activity helped them meet course objectives, to identify strengths and limitations, and how likely they would be to apply what they had learned (Appendix F). Students were also invited to provide free-text responses to elaborate on their feedback. Two members of the research team independently reviewed and coded responses and identified salient themes. Reviewers discussed and successfully resolved any discrepancies that arose during the coding and thematic analysis.

Results

A total of 29 fourth-year medical students completed the MeGA activity between January and April 2022 as part of their medical Spanish elective. The activity took place in two cohorts, the first with 16 students and the second with 13 students. Table 1 describes participant demographic characteristics and ILR-H Spanish proficiency.

Jargon analysis was conducted for the pilot cohort of 16 students to evaluate the activity's effectiveness prior to continued implementation. Each module's activity generated three transcripts (corresponding to diagnosis, treatment, and follow-up, respectively), yielding a total of 480 transcripts (30 total transcripts per student for 16 students) for jargon measurement.

Table 1. Participating Medical Student Demographic Characteristics and Spanish Proficiency Level

Student Cohort	N	Age Range (M)	No. (%)			Self-Reported Spanish Proficiency ^a : No. (%)			
			Female	LHS+ ^b	UIM ^c	Fair	Good	Very Good	Excellent
1	16	25-31 (27.5)	8 (50)	3 (19)	4 (25)	10 (63)	6 (38)	0 (0)	0 (0)
2	13	25-37 (28.9)	10 (77)	4 (31)	5 (38)	10 (77)	1 (8)	1 (8)	1 (8)
Total	29	25-37 (28.1)	18 (62)	7 (24)	9 (31)	20 (69)	7 (24)	1 (3)	1 (3)

Abbreviations: LHS+, Latina/o/x, Hispanic, or of Spanish origin; UIM, underrepresented in medicine.

^aReported on the Interagency Language Roundtable scale for health care.

^bNationalities of LHS+ heritage reported by students included México (three students), El Salvador, Ecuador, Bolivia, Colombia, and Cuba.

^cDefined as groups underrepresented in medical careers relative to their representation in the general population, including individuals who identify as Black/African American, LHS+, and Native American/Indigenous.

Overall, students' jargon use progressively decreased throughout their participation in MeGA (Table 2). Unexplained jargon use and problem words decreased for all transcripts (diagnosis, treatment, and follow-up; all p s < .001). Total jargon use decreased for all transcripts as well, but the reduction was not statistically significant in the follow-up transcripts ($p = .38$). Figure 2 shows the percentage of jargon change in diagnosis, treatment, and follow-up transcripts over time for the three main outcome variables: total jargon, unexplained jargon, and problem words, respectively.

All 29 participants provided postactivity feedback. All either agreed or strongly agreed that the MeGA series helped them to improve their patient-centered Spanish communication and to self-identify their strengths and limitations and that they were likely to apply what they had learned in patient care. The item with which the highest number of students strongly agreed was the statement that the MeGA series helped them improve patient-centered Spanish communication, with 25 participants (86% of 29) strongly agreeing and all others (14%) agreeing. Similarly, 79% (23 of 29) strongly agreed that they were likely to apply what they had learned in MeGA to patient care, and 21% (six of 29) agreed.

When providing free responses about how they would apply what they had learned, most participants wrote about patient care situations in which what they had learned about patient communication would be useful. For example, one student wrote, "It helped me to think about my explanations in a more simple way, which is easier for me to explain in Spanish and for the patient to understand," and another highlighted the direct applicability to "patients and parents in the ER, hospital, and clinic." Another theme that emerged was the utility of MeGA on overall communication skills beyond Spanish alone. One participant summarized that "I will honestly use this format for talking to all patients. It's very useful to think about communicating assessments and plans this way."

When responding about the best aspects of MeGA, students wrote about the focus on aspects of clinical communication not typically emphasized elsewhere in the medical education curriculum, such as explaining treatment plans and follow-up care. One student said, "I liked thinking about return precautions. It wasn't something I got to practice very much in medical school so it was good to have that experience." Others discussed the benefits of the visual format, such as one person who "felt like I learned or solidified words by reading the graphics." Several students appreciated MeGA as a way to track their own progress and reinforce the class material, indicating that "it's nice to be able to see myself progress each day! And helpful to see how other folks use their language skills to describe the same thing." Finally, learners made comments about the activity feeling authentic, comparing MeGA to "a mini SP encounter" and focusing on the aspects of communication that were most important: "It was less about perfect grammar/documentation and more about communication." Students who suggested ideas for improvement of MeGA mostly wanted more time dedicated to the activity. Others recommended additional MeGA case ideas, such as "delivering serious news or explaining procedures."

Discussion

MeGA is a novel pedagogical tool that integrates graphic medicine with medical Spanish education with the aim of deliberately practicing and improving patient-centered communication. Our data show that students who participated in MeGA reduced their medical jargon use, particularly their use of unexplained jargon and problem words. Additionally, students were highly engaged and perceived the activity as useful for medical Spanish education and practical for patient care.

Prior research in medical Spanish education has shown that most previously available pedagogical tools focus on knowledge-based course objectives through technical vocabulary building yet may lack opportunities for teaching patient-centered communication.^{5,27,28} While vocabulary building is part of medical

Table 2. Changes in Medical Student Percentage of Jargon, Unexplained Jargon, and Problem Words During Medical Spanish Graphic Activity Series: Mixed-Effects Regression

Feature	Diagnosis			Treatment			Follow-up		
	Coefficient	SE	p	Coefficient	SE	p	Coefficient	SE	p
Jargon %	-1.06	.18	<.001	-0.85	.13	<.001	-0.11	.13	.38
Unexplained jargon %	-1.09	.12	<.001	-1.02	.11	<.001	-0.42	.08	<.001
Problem words %	-1.25	.14	<.001	-1.17	.14	<.001	-0.66	.09	<.001

Spanish education, it is far from being the most important, given that in the US health care context, medical Spanish courses aim to prepare clinicians to effectively communicate with patients, who may not be familiar with technical medical terms and need a clinician who can explain concepts in their language in an accessible and comprehensible way. MeGA addresses this by contextualizing the activity in a patient scenario depicted in handout graphics and by having learners complete the tasks verbally.

Student feedback indicated that MeGA was helpful for self-assessing their skills and limitations in Spanish for health care use. Since inaccurate or misunderstood information is a leading cause of medical error,²⁹ it is critical to patient safety for medical Spanish courses to include ample opportunities for learners to understand their skills and correctly determine when they need a professional interpreter.³⁰ While MeGA should not replace more formal and authentic assessments in medical Spanish courses, such as SP encounters,³¹ practicing self-assessment of language skills is critical to learning when to request a medical interpreter. Even after being formally tested, candidates' skills may change over time or vary depending on the specific medical situation (e.g., an ophthalmologist may self-rate as having very good Spanish skills on the ILR-H when discussing eye problems and procedures but may change their self-rating to fair if asked to discuss a knee injury or depression in the same language). From an educator's perspective, an additional benefit of MeGA is that the recording process gives students frequent exposure to practicing their language skills in the speaking domain while minimizing potential language anxiety since each learner records privately. Language anxiety is a well-studied factor in general language educational settings that is known to inhibit students from actively participating in class and may cause them to underrate their skills.^{32,33}

After considering student comments about the best aspects of MeGA, we have several suggestions for maximizing the potential benefits of this pedagogical tool. First, one unexpected positive outcome is that many students identified MeGA as a tool for tracking their own skills progress. The degree of individual engagement with MeGA is a big benefit but also presents a

challenge to the instructor since each student generates multiple transcripts simultaneously and may solicit feedback on their performance. Educators could address this by providing a rubric for students to self-assess how they did on their recording after viewing the sample faculty response, considering peer-review assignments for students to review and provide feedback on each other's transcripts, and/or inviting them to edit or re-record their response following group debriefing.

The biggest challenge to implementation of MeGA was time. To accommodate MeGA, other activities that had been previously used in the course had to be shortened. Educators interested in implementing MeGA should reflect on their own pedagogy and determine if some elements (e.g., lectures) could be removed or completed asynchronously. The most requested improvement to MeGA was an expansion of the time dedicated to this activity in the medical Spanish course. Time can be added for more robust discussion through peer-review feedback in which learners review a partner's transcript and provide tips or comments for improvement, and vice versa. In a classroom where learners vary in their Spanish proficiency level, accent, and prior linguistic and cultural exposures, this approach may also help showcase the valuable perspectives of a diverse student group. For example, students who are heritage or native speakers of Spanish may be able to offer insights based on their cultural and linguistic lived experience, such as whether certain words or explanations would be commonly understood by members of their communities.²³ By expanding MeGA discussion time and incorporating additional strategies for self-reflection and peer review, educators can further maximize inclusivity in the educational environment.

It is our hope that by incorporating MeGA and similar interventions into medical Spanish education, instructors will re-center course objectives on patient-centered communication. The MeGA activity explicitly makes a philosophical shift away from medical Spanish courses being focused on learning terminology (jargon) and toward patient-centered communication. Student feedback suggests that DP through MeGA may help enhance communication skills beyond language alone, such as empathy and cultural humility, which students can apply with all patients regardless of language preference. MeGA

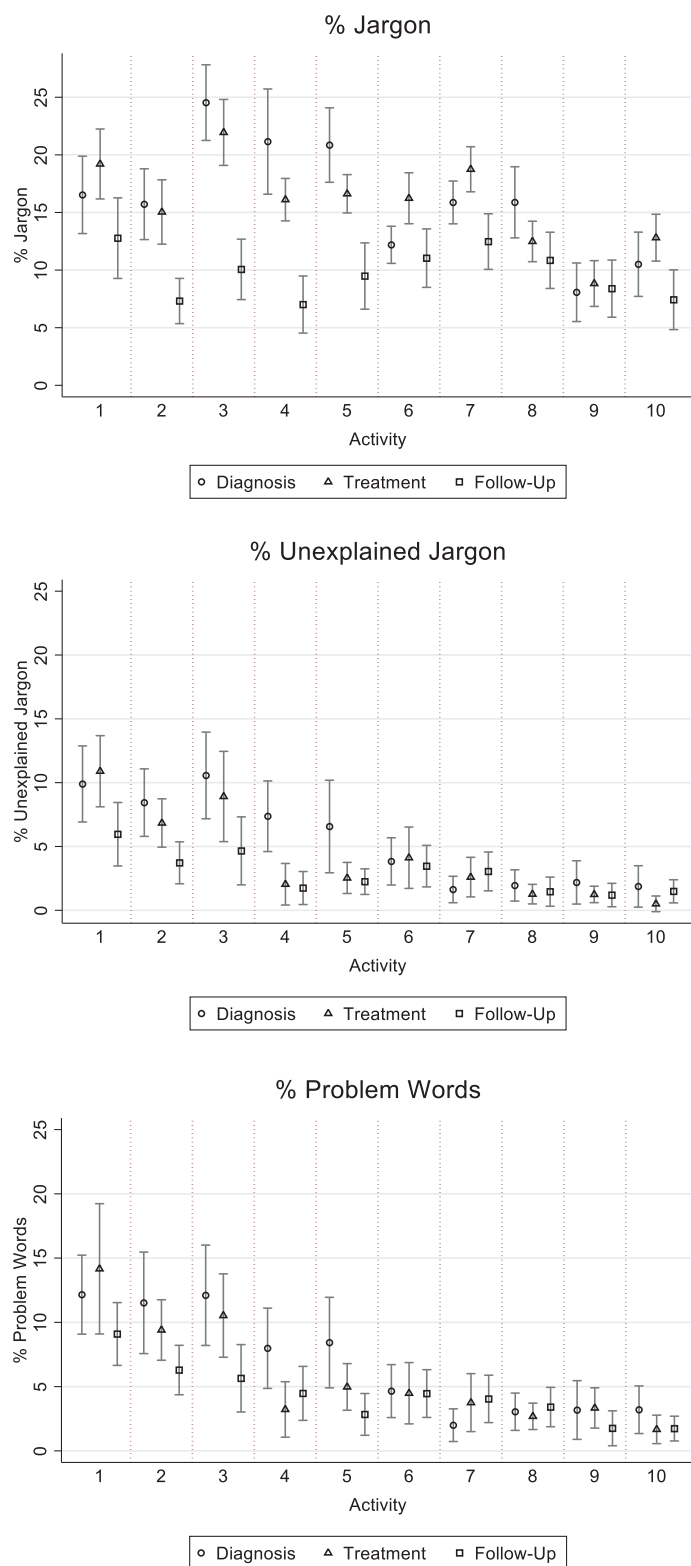


Figure 2. Changes in percentage of jargon, percentage of unexplained jargon, and percentage of problem words during the Medical Spanish Graphic Activity series. Error bars indicate 95% confidence intervals.

may also add to the repertoire of pedagogical and formative assessment tools that can be used for DP and to track students' progress.

Our project has some limitations. First, MeGA was implemented with fourth-year medical students participating in a medical Spanish course at a single institution. These learners were simultaneously engaging in other learning opportunities that may have impacted their jargon use and other aspects of their communication skills. MeGA should be tested in additional educational settings and sites to determine whether it is appropriate for use with medical students or physicians in different contexts. For instance, it is likely to need modifications to be implemented with medical students at less advanced stages of medical training since a significant amount of baseline medical knowledge is required to successfully complete the prompts of explaining the diagnosis, treatment, and follow-up plan to the patient. Most students in this project were intermediate-level Spanish speakers; it would be informative to replicate MeGA with students at higher levels of proficiency such as advanced or native speakers, whose jargon use patterns and general linguistic practices may substantially differ. Additional MeGA scenarios could also be developed to address nonacute concerns or to focus on communication skills for certain specialties (e.g., ophthalmology, obstetrics/gynecology, etc.).

Second, the process for jargon measurement is labor intensive and may be unrealistic for real-time implementation; nonetheless, jargon metrics hold promise as an informative tool to track outcomes in medical Spanish education. If jargon measurement were automated in the future, such as through artificial intelligence algorithms, it would increase the usability of this metric as an additional outcome that educators and students could feature as part of this and other activities. Future research should also compare the effectiveness of the MeGA approach to more traditional pedagogical strategies used in medical Spanish education.

While MeGA has been developed only in Spanish, potential adaptations could allow educators to apply a similar methodology to teaching effective medical communication with other marginalized groups. Future studies should also explore enhancing empathic communication and helping students to build positive relationships more confidently and effectively with Spanish-speaking patients as a key learning outcome, beyond communicating the medical facts alone. Engaging community member perspectives in future research could be a valuable way to evaluate how students' communication is perceived by patients.

The initial implementation of MeGA suggests that its integration of graphic medicine into a medical Spanish course is a viable strategy to deliberately practice medical jargon reduction. Future studies should evaluate similar approaches for physicians in other training levels, explore communication skills practice with other marginalized populations, and incorporate patient perspectives.

Appendices

- A. MeGA Handouts.pdf
- B. MeGA Sample Answers.pdf
- C. MeGA English Translations.pdf
- D. MeGA Instructions.pptx
- E. Instructor Rubric.docx
- F. Student Survey for MeGA.docx

All appendices are peer reviewed as integral parts of the Original Publication.

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Ethical Approval

The University of Illinois Institutional Review Board deemed further review of this project not necessary.

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